

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION

Applicants : Hermann Oppermann et al.  
Application No. : 10/816,768  
Confirmation No. : Not Yet Available  
Filed : April 2, 2004  
For : MODIFIED TGF- $\beta$  SUPERFAMILY PROTEINS  
Examiner : To be Assigned  
Group Art Unit : To be Assigned

New York, New York 10020  
February 4, 2005

Hon. Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56 and 1.97(c),  
applicants, through their attorneys, hereby make the  
following patents and publications of record in the above-  
identified patent application\*:

UNITED STATES PATENTS

Oppermann, et al.	5,011,691	4/30/91
Oppermann et al.	5,266,683	11/30/93

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\* For the convenience of the Examiner, a completed Form  
PTO/SB/08A(10-01), listing these documents, is attached.

Wolfman, et al.	5,399,677	3/21/95
Celeste, et al.	5,658,882	8/19/97
Tucker et al.	5,674,292	10/7/97
Wolfman, et al.	5,756,308	5/26/98
Lee, et al.	5,770,444	6/23/98
Lee, et al.	5,801,014	9/1/98
Wolfman, et al.	5,804,416	9/8/98
Hötten et al.	5,807,713	09/15/98
Kuberasampath, et al.	5,840,325	11/24/98

#### FOREIGN PATENT DOCUMENTS

DE 195 11 243A	01/04/96	Bioph Biotech Entw Pharm GmbH (DE)
EP 0150 572A	08/07/85	Amgen (US)
EP 0433225	06/19/91	Creative Biomolecules Inc. (US)
EP 0626451A2	11/30/94	Fujisawa Yukio (JP)
EP 0676 474A	10/11/95	Oncogen (US)
WO 89/03886	05/05/89	Oncogen (US)
WO 91/05802	05/02/91	Creative Biomolecules Inc. (US)
WO 91/05565	05/02/91	Creative Biomolecules Inc. (US)
WO 92/00318	01/09/92	Genetics Institute (US)
WO 92/15323	09/17/92	Creative Biomolecules Inc. (US)
WO 93/09229	05/13/93	Genetics Institute (US)
WO 96/39430	12/12/96	Frederick Hall et al.

#### OTHER PUBLICATIONS

Brunner, et al., Site -directed mutagenesis of cysteine residues in the pro region of the transforming growth factor  $\beta$ 1 precursor, J. Biol. Chem., 264, pp. 13660-13664 (1989).

Han, et al., Refolding of a recombinant collagecollage-targeted TGF-  $\beta$ 2 fusion protein expressed in Escherichia coli, Protein Expression and Purification, 11, pp. 169-178 (1997).

Hilvert, et al., Chemical synthesis of proteins, Chem. Biol., 1, pp. 201-203 (1994).

Lipscomb, et al., Context-dependent protein stabilization by methionine-to-leucine substitution shown in T4 lysozyme, Protein Sci., 7, pp. 765-773 (1998).

Liu, et al., Peptide segment ligation strategy without use of protecting groups, Proc. Natl. Acad. Sci. USA, 91, pp. 6584-6588 (1994).

Miranda, et al., Accelerated chemical synthesis of peptides and small proteins, Proc. Natl. Acad. Sci. USA, 96, pp. 1181-1186 (1999).

Muir, et al., Expressed protein ligation: A general method for protein engineering, Proc. Natl. Acad. Sci. USA, 95, pp. 6705-6710 (1998).

Nikolova, et al., Semirational design of active tumor suppressor p53 DNA binding domain with enhanced stability, Proc. Natl. Acad. Sci. USA, 95, pp. 14675-14680 (1998).

Smith, et al., Automatic generation of primary sequence patterns from sets of related proteins, Proc. Natl. Acad. Sci. USA, 87, pp. 118-122 (1990).

Wallace, et al., Peptide ligation and semisynthesis, Curr. Opin. Biotechnol., 6, pp. 403-410 (1995).

Wang, et al., Recombinant human bone morphogenetic protein induces bone formation, Proc. Natl. Acad. Sci. USA, 87, pp. 2220-2224 (1990).

Each of the above listed documents was submitted with applicants' May 24, 2000 Information Disclosure Statement and June 24, 2002 Supplemental Information Disclosure Statement in U.S. application No. 09/375,333 from

which the present application claims priority. Therefore, no copy of the documents are provided herewith. 37 C.F.R. § 1.98(d). However, if the Examiner desires applicants to resubmit these documents, applicants request that the Examiner notify applicants in the next communication.

This Statement is submitted more than three months from the application filing date but before the mailing date of the first substantive Office Action. In accordance with 37 C.F.R. § 1.97, submission of this Statement requires no fee. If for any reason any additional fee is due, the Director is hereby authorized to charge payment of any fees required in connection with this Information Disclosure Statement to Deposit Account No. 06-1075. A duplicate copy of this letter is transmitted herewith.

Applicants respectfully request that these documents be (1) considered by the Examiner prior to issuance of any patent from this application; and (2) printed on any patent that may issue from this application. Applicants also request that a copy of enclosed Form PTO/SB/08A(10-01), as considered and initialed by the Examiner, be returned with the next communication.

Respectfully submitted,

I hereby certify that this  
Correspondence is being  
deposited with the U.S.  
Postal Service as First  
Class Mail in an envelope  
Addressed to:  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450 on

February 4, 2005

En Garcia

Person Signing



James F. Haley, Jr. (Reg. No. 27,794)

Karen Mangasarian (Reg. No. 43,772)

Attorneys for Applicants

Fish & Neave IP Group

Ropes & Gray LLP

Customer No. 1473

1251 Avenue of the Americas

New York, New York 10020-1104

Tel.: (212) 596-9000

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete if known</b>	
				Application Number	10/816,768
Sheet 1 of 3				Filing Date	April 2, 2004
				First Named Inventor	Hermann Oppermann et al.
				Art Unit	To be Assigned
				Examiner Name	To be Assigned
				Attorney Docket Number	STK-075 CON

U.S. PATENT DOCUMENTS					
Examiner initials*	Cite No. <sup>1</sup>	Document Number Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		5,011,691	4/30/91	Oppermann, et al.	
		5,266,683	11/30/93	Oppermann et al.	
		5,399,677	3/21/95	Wolfman, et al.	
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		5,807,713	09/15/98	Hötten et al.	
		5,840,325	11/24/98	Kuberasampath, et al.	

FOREIGN PATENT DOCUMENTS						
Examiner initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Documents	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		DE 195 11 243A	01/04/96	Bioph Biotech Entw Pharm GmbH (DE)		
		EP 0150 572A	08/07/85	Amgen (US)		
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		EP 0626451A2	11/30/94	Fujisawa Yukio (JP)		
		EP 0676 474A	10/11/95	Oncogen (US)		
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		WO 91/05802	05/02/91	Creative Biomolecules Inc (US)		
		WO 91/05565	05/02/91	Creative Biomolecules Inc (US)		

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b><i>Complete if known</i></b>	
				Application Number	10/816,768
				Filing Date	April 2, 2004
				First Named Inventor	Hermann Oppermann et al.
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Sheet	2	of	3	Attorney Docket Number	STK-075 CON

[illegible]

Examiner Signature		Date Considered	
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Substitute for form 1449A/PTO

(use as many sheets as necessary)

Sheet	3	of	5
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**Complete if known**

<b>Application Number</b>	10/786,997
<b>Filing Date</b>	February 24, 2004
<b>First Named Inventor</b>	Roger D. Tung et al.
<b>Art Unit</b>	1625
<b>Examiner Name</b>	D. Margaret Seaman
<b>Attorney Docket Number</b>	VPI/92-07CIP2ADIV3 CON

[illegible]Examiner  
SignatureDate  
Considered

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